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**COMMITTEE OF EXPERTS ON THE
TRANSPORT OF DANGEROUS GOODS**

Sub-Committee of Experts on the
Transport of Dangerous Goods
(Fourteenth session,
Geneva, 8-18 December 1997,
agenda item 4 (b))

**GLOBAL HARMONIZATION OF SYSTEMS OF CLASSIFICATION
AND LABELLING OF CHEMICALS**

Physical hazards

Cut off (threshold) value for Organic Peroxides

**Implementation of Agenda 21
Classification of Reactive Substances**

Transmitted by the Observer from New Zealand

Introduction

At the thirteenth session of the Sub-Committee New Zealand presented an informal paper INF.3. This paper outlined a number of concerns relating to the classification of Flammable and Reactive Substances in the proposed Globally Harmonized System. During the Working Group meeting, New Zealand was invited to present formal papers to the fourteenth session of the Sub-Committee.

New Zealand is currently developing Regulations for the Hazardous Substances and New Organisms (HSNO) Act. This Act implements the concepts and philosophy of the Globally Harmonized Chemical Classification System to New Zealand's Domestic Legislation. While developing these Regulations, we discovered some serious problems in applying the current UN transport classification criteria to the controls needed for worker, consumer and environmental safety. The difficulty arises from the UN transport classification's use of packaging to modify the risk.

As reported in ST/SG/AC.10/C.3/26 the Working Group agreed that the cut off value for Organic Peroxide be

Any organic peroxide, except organic peroxides or organic peroxides formulations: (a) containing not more than 1.0% available oxygen from the organic peroxides when containing not more than 1.0% hydrogen peroxide; or	Test series A to H (Refer to Part II of the Manual of Tests and criteria)
(b) containing not more than 0.5% available oxygen from the organic peroxides when containing more than 1.0% but not more than [7.0%] hydrogen peroxide. Classification under types A to G in accordance with the criteria of the Manual of Tests and Criteria, Part II <i>Note 1: Type G is not dangerous for transport.</i> <i>Note 2: Sub-divisions may not be necessary for all systems.</i>	

The hydrogen peroxide concentration of 7% is still subject to confirmation at the fourteenth session.

New Zealand's Position re the Globally Harmonized Classification System

New Zealand strongly supports the creation of a Globally Harmonized Chemical Classification System. We also strongly support the Terms of Reference of the CG/HCCS. Our position is stated in ST/SG/AC.10/C.3/1997/68. This position is the same as the position presented in INF.3 at the thirteenth session on the Sub-Committee.

Proposal

New Zealand proposes that the 7% Hydrogen Peroxide (referred to in part (b) of the criteria) be reduced to 5% Hydrogen Peroxide.

Justification

If five percent Hydrogen Peroxide is substituted for Seven percent Hydrogen Peroxide, part (b) of the Criteria aligns with the second part of the criteria used in the EU Directive 67/548.

We recommend the Working Group adopt the proposed definition for cut off values because -

- (i) it provides for one standard approach that can be used in global harmonisation;
- (ii) it preserves existing safety criteria as required by the terms of reference;
- (iii) it meets the proposal by the observer from CEFIC (ST/SG/C.10/C.3/1997/11) that there be one system
- (iv) it allows for potential hazards outside of the transport mode to be addressed, without imposing additional costs; and

- (v) it exempts Organic Peroxide and Organic Peroxide mixtures and solutions, which present a low risk (as Organic Peroxides) from controls in any part of the life cycle.
- (a) At the thirteenth session a number of experts indicated that they felt that there might be a significant number of products or formulations which could be captured by lowering the Hydrogen Peroxide concentration from 7% to 5%. No specific examples were cited at the thirteenth session.
- (b) New Zealand has carried out an extensive search for products or formulations which may be affected by reducing the Hydrogen Peroxide concentration to five percent. We have not found any products which would be reclassified. This has included a search of our National Poisons Centre's product data base, Ministry of Health and Ministry of Agriculture's product registrations data bases. These data bases include Pesticide, Animal Remedies, Medicines, and Food, Dairy and Brewing sanitising products. We have also sought information from overseas
- (c) The only product which comes close, is one used for sanitising in the brewing, food and dairy industry. This has just over one percent available oxygen and twenty-five percent hydrogen peroxide. It is therefor considerably above the cut off value.
- (d) In the absence of any proof to the contrary the adoption of the lower cut off value of five percent must be adopted to comply to the terms of reference under which the Working Group is operating, i.e. **"that the level of safety will not be reduced"**.

Recommendation

That the Committee adopt the cut off value of 5 per cent for hydrogen peroxide, in part (b) of the criteria for Organic Peroxides.

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Annex

(a) Search for Organic Peroxide formulations with 5%-7% hydrogen peroxide

1. National Toxicological Database

- (a) None found.
- (b) The database lists 17 products with H_2O_2 in the range 5-7%. These are all hair bleaches and do not contain any organic peroxide. They are therefore not relevant.

2. Farming sector

- (a) None found on our database for Pesticides or Animal Remedies.
- (b) In dairy sector there is one product used to clean vegetables and hydroponics that has 6% H_2O_2 formulated with activated alluvial silver. The major hazard from the silver.
- (c) Noted Also
 - (i) Hydrogen Peroxide is also used as a 'buffer' in peroxyacetic acid,

3. Therapeutics

We have a New Zealand compiled database on medicines either sold, or under consideration via an application, or discontinued in NZ. It shows only two peroxides. Hydrogen peroxide and dibenzoyl peroxide.

- (a) Hydrogen peroxide has 11 entries and 2 of these are within the range [i.e. 6%] hydrogen peroxide. These are not formulated products i.e. simple solutions only. The other 9 are either above 7% or below 5%. None of these contain any Organic Peroxide.
- (b) Dibenzoyl peroxide has 35 entries. Over 30 of these are for formulated products. For reasons to do with who can retail them, these divide readily into 22 that are 5%w/v or less, and the remainder are at 10% or more. Five Percent dibenzoyl peroxide equates to available oxygen of 0.3302% and 10 % equates to 0.6605 % available oxygen. None of these products were listed as containing any hydrogen peroxide.

Commercially available dibenzoyl peroxide is available in concentrations up to 100%
